

## **AMENDMENTS TO THE CLAIMS**

The following listing of claims will replace all prior versions and listings of claims in the application.

### **LISTING OF CLAIMS**

1.-4. (cancel)

5. (original) A method for implementing a digital multi-channel frequency channelizer, comprising the steps of:

determining a polynomial form that is indicative of a prototype filter;

computing a polyphase decomposition for the prototype filter in order to derive at least two adjacent filter channels, where each adjacent filter channel includes two linear phase digital filters which are implemented in digital circuitry having a plurality of registers;

adding a delay to one of the two digital filters in each of the adjacent filter channels, such that the delay is equal to the delay associated with one register in the digital circuitry; and

combining the two adjacent filter channels, thereby forming a frequency channelizer having linear phase.

6. (original) The method of Claim 5 wherein the step of determining a polynomial form further comprises defining the prototype filter as a finite impulse response (FIR) filter.

7. (original) The method of Claim 5 wherein the step of determining a polynomial form further comprises using a Parks-McClellan design technique to realize the prototype filter.

8. (original) The method of Claim 5 wherein the step of computing a polyphase decomposition further comprises configuring the two linear phase digital filters in a cascade form.

9. (cancel)

10. (cancel)